SHELLFISH DRESSING DEVICE AND METHOD

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to hand-operated devices, and in particular, to devices for use in facilitating the removal of meat from shellfish, such as crab.

Description of the Related Art

People have been eating shellfish for ages. Shellfish have exoskeletons or shells that encase the edible portions of the animal. The shells can be difficult to remove. As a result, people have been developing devices to facilitate the dressing, cooking and eating of shellfish for almost as long as they have eaten them. Typically, these devices include plier-type mechanisms with teeth to grip the often slippery portion of the shellfish being opened, and with elongated lever-arms to make cracking the shell easier.

For crabs and similar shellfish, the job of removing meat from the shell can be particularly difficult because the crabs' legs are long and relatively narrow. The nutcracker-type devices discussed above can be used, with which the shell is cracked sequentially along the length of the leg and is then broken along a lengthwise crack and the meat removed. In addition, picking tools have been developed to allow a person to reach into a partially cracked or un-cracked leg and remove meat therefrom.

With most or all of these tools, eating shellfish is still a time-consuming job.

BRIEF SUMMARY OF THE INVENTION

The present invention is directed toward devices and methods for use in preparing and eating shellfish, such as crab. In one embodiment, the device can

incorporate a handle and a working end. The handle can have a pair of handle members, at least one of which is movable relative to the other between two distinct positions. The working end can similarly have a pair of blades coupled at their proximal ends to a corresponding one of the handle members. The blades can be coupled to each other at a point located distally with respect to the central portion of the blades, and are adapted such that the central portion of the blade is movable laterally. The blades can be operated by manipulating the handle members, moving between an aligned configuration in which the blades are at aligned with each other and a spread configuration in which the central portion of at least one of the blades is spaced apart laterally from the central portion of the other blade. The aligned configuration facilitates insertion of the working end into the shellfish, while the spread configuration punctures the shell with the central portion of the blade. By removing the device from the shellfish while retaining the working end in the spread configuration, the device can make a slit along the length of the shellfish, facilitating removal of the meat therefrom.

In one particular embodiment, the device incorporates blades made of substantially rigid material, wherein each blade is assembled from a pair of substantially rigid members pivotally linked to each other at their central region. The blades are also pivotally coupled together at their distal ends, and are fixedly coupled at their proximal ends to the handle members to pivot therewith. When the handle members are pivoted relative to each other, the proximal ends of the blades pivot relative to each other in response. When the proximal portions of the blades rotate outward, the distal portions of the blades pivot in opposing directions to compensate for this movement, so that the distal ends of the blades can remain in a constant longitudinal alignment.

In other embodiments, the materials and configuration can vary, while maintaining the spirit of the invention. Versions of the invention can use flexible materials instead of rigid materials, can use more or fewer linkages, and can be bilaterally symmetrical or asymmetrical. One of ordinary skill in the art, having

reviewed this entire disclosure, will appreciate these and other variations that can be made to the embodiments shown and described below.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Figure 1 is an isometric of a piece of shellfish and a shellfish dressing device according to one embodiment of the present invention, in an aligned configuration.

Figure 2 is an isometric of the piece of shellfish and the shellfish dressing device of Figure 1, in a spread configuration.

Figure 3 is a plan view of the shellfish dressing device of Figure 1 in the open configuration.

Figure 4 is a plan view of the shellfish dressing device of Figure 1 in the closed configuration.

Figure 5 is an exploded isometric view of the shellfish dressing device of Figure 1.

DETAILED DESCRIPTION OF THE INVENTION

The present invention is directed toward a shellfish dressing device. Many specific details are provided and illustrated to help explain the construction and operation of the one particular embodiment of the invention. The invention could take on other embodiments, and one of ordinary skill in the art, having reviewed the present disclosure in its entirety, would readily appreciate modifications that could be made to the illustrated embodiment without deviating from the spirit of the invention. Thus the invention is not to be limited to the specific embodiment illustrated in the drawing and described in connection therewith.

Figures 1-5 illustrate a shellfish dressing device 10 according to one particular embodiment of the present invention. In general, the device 10 is made up of a handle 12 and a working end 14. The handle 12 is manually actuable to

manipulate the working end 14 during use to facilitate the removal of meat from a piece of shellfish, such as a crab leg section 16, as shown in Figures 1 and 2.

The illustrated handle 12 is manipulable in a manner equivalent to a scissor handle, between open (Figure 1) and closed (Figure 2) configurations. An inner handle member 18 and an outer handle member 20 are pivotally coupled together at a hinge joint 22. The illustrated handle 12 is not only manipulable to actuate the working end 14, but can also be used itself to crack shells. To do so, a shell is positioned between the outer and inner handle members 18,20 and the handle members are moved toward the closed configuration to crack the shell therebetween.

The inner handle member 18 has a closed grip with an external surface 24, an internal surface 26 and a hole 28 for gripping during use. The hole 28 can be countoured to comfortably receive an operator's fingers during use. The internal surface 26 incorporates several inner protrusions 30 to facilitate retaining and cracking shells between the inner and outer handle members 18,20. The external surface 24 can extend along the width of the user's hand, providing a surface that the user can force against a table or other object to help crack difficult shells.

The outer handle member 20 can have an internal surface 32 shaped to complement the shape the inner handle member 18, and an external surface 34 contoured to comfortably rest in the user's palm during use. The internal surface 32 of the outer handle member 20 can incorporate outer protrusions 36 positioned to align with the inner protrusions 30 during use. The outer protrusions 36 can work with the inner protrusions 30 to grip and crack shells during use. The outer handle member 20 can terminate in a spoon 38, which can be used to separate meat from a piece of shellfish.

The inner and outer handle members 18,20 are fixedly coupled to first and second proximal blades 40,42, respectively, to move as a unit therewith. The proximal blades 40,42 are angled with respect to the inner and outer handle members 18,20, such that when the handle members are in the open position (Figure 3), the proximal blades are generally aligned with each other. Depending on the size and

shape of the respective handle members 18,20, the angular offset of the proximal blades 40,42 can vary accordingly.

The proximal blades 40,42 are pivotally coupled to respective distal blades 44,46 at a pair of central couplings 48,50. In the illustrated embodiment, proximal blade 40 is coupled to distal blade 44 and proximal blade 42 is coupled to distal blade 46. The ends of the distal blades 44,46 opposite the proximal blades 40,42 are pivotally coupled to each other at a pin-type linkage 52. As a result, when the proximal blades 40,42 are actuated to rotate with respect to each other, the distal blades 44,46 follow them, but linkage 52 retains the distal ends of the distal blades together, causing each distal blade to rotate in a direction opposite the respective proximal blade.

One or more of the blades 40,42,44,46 can be configured to facilitate the cutting, piercing and/or splitting of a shell. For example, the distal blades can have chamfers 54,56, respectively, or can have likewise beveled or sharpened edges, to cut a shell from the inside. Likewise, the distal ends of the proximal blades 40,42 can have sharpened faces 58,60 to puncturing a shell from the inside. In addition or instead, the distal-most end of one or both of the distal blades 44,46 can be pointed or otherwise adapted to facilitate insertion of the working end 14 of the device 10 into a piece of shellfish.

The device can incorporate a spring, such as torsional spring 62 to urge the handle 12 into the open position.

As shown in Figure 1, when the device 10 is in the aligned configuration, the elements of the working end 14 are generally aligned with each other for easy insertion into the crab leg section 16. By comparison, as shown in Figure 2 when the device 10 is in the spread configuration, the working end 14 is spread apart to puncture and slit the shell of the crab leg section 16. The closed configuration of the handle 12 corresponds to the spread configuration of the working end 14, while the open configuration of the handle corresponds to the aligned configuration of the working end.

All of the above U.S. patents, U.S. patent application publications, U.S. patent applications, foreign patents, foreign patent applications and non-patent publications referred to in this specification and/or listed in the Application Data Sheet, are incorporated herein by reference, in their entirety.